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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,761	07/30/2003	Takeshi Shioga	1077.1011-D	7698

21171 7590 06/01/2004

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EXAMINER

TSAL, H JEY

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 06/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AM

Office Action Summary	Application N .		Applicant(s)	
	10/629,761		SHIOGA ET AL.	
	Examiner		Art Unit	
	H.Jey Tsai		2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13 and 16-37 is/are pending in the application.
- 4a) Of the above claim(s) 13,16,20-22,24-28,30,31 and 33-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-19,23,29 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/30/03</u> . | 6) <input type="checkbox"/> Other: _____ |

Election/Restriction

Applicant's election without traverse of claims 17-19, 23, 29 and 32 in Paper filed on April 2, 2004 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 18 is rejected under 35 U.S.C. § 102(a or e) as being anticipated by Bertin et al. 2001/0001292.

Bertin et al. substantially discloses a semiconductor device, which includes:

a semiconductor element substrate 15, fig. 20 and para.58,

a passive component 136 (a capacitor) mounted on the semiconductor element substrate 15 and electrically connected to electrodes of the semiconductor element substrate 15,

column-shaped conductors 40A formed on the semiconductor element substrate 15 in a region other than a region where the passive component 136 is mounted,

an insulation layer 101/103/105 burying the passive component and the column-shaped conductors 40A, fig. 10 and para. 50,

the upper surfaces of the column-shaped conductors being exposed on the surface of the insulating film.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 19, 23, 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin et al. 2001/0001292 in view of skill of ordinary person.

The reference(s) teach the features:

Bertin et al. substantially discloses a semiconductor device, which includes:

a semiconductor element substrate 15, fig. 20 and para.58,

a passive component 136 (a capacitor) mounted on the semiconductor element substrate 15 and electrically connected to electrodes of the semiconductor element substrate 15, para. 58,

column-shaped conductors 40A formed on the semiconductor element substrate 15 in a region other than a region where the passive component 136 is mounted, and

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having a height which is substantially flush with at least the upper surface of the passive component,

an insulation layer 101/103/105 burying the passive component and the column-shaped conductors 40A, fig. 10 and para. 50,

the upper surfaces of the column-shaped conductors being exposed on the surface of the insulating film,

passive element of capacitor 136 is flip bonding to the electrode 40, fig. 20.

The difference between the reference(s) and the claims are as follows: Bertin et al. teaches in fig. 20, mounting a passive component 136 to an active semiconductor substrate 15 but does not teach that column shaped conductors 40A is substantially flush with the passive component 136. However, Bertin et al. teaches in fig. 19 and para. 58, the column shaped conductors 40A is substantially flush with active chip 50 and passive component can be mounted in the back surface of chip 50 as well.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Bertin's figure 20 with column shaped conductors 40A is substantially flush with the passive component 136 as suggested by Bertin's fig. 19 and para. 58 because a multiple components can be stacked together or a heat sink can attach to the passive component for cooling.

Any inquiry of a general nature or clerical matters or relating to the status of this application or proceeding should be directed to the customer service whose telephon numb r is (703) 308-4357 and Fax number (703) 872-9306.

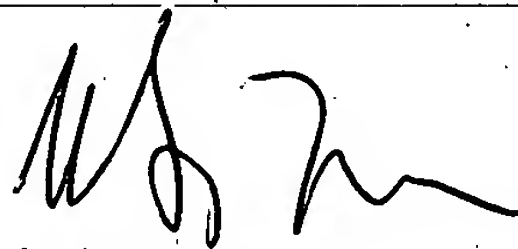
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Jey Tsai whose telephone number is (571) 272-1684. The examiner can normally be reached on from 7:00 Am to 4:00 Pm., Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on (571) 272-1679. The fax phone number for this Group is (703) 872-9306.

hjt

5/23/04



H. Jey Tsai
Primary Examiner
Patent Examining Group 2800